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1193-53 The Impact of Admission to Primary Versus Tertiary Care VA Medical Centers on Outcomes Following Acute Coronary Syndromes: The VA Access to Cardiology Study

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Background: There is concern that ACS patients admitted to primary care hospitals (without cardiology services) may be at risk for worse outcomes compared to patients admitted to tertiary care hospitals (with cardiology services). We compared the outcomes of ACS patients admitted to primary versus tertiary Veterans Administration hospitals.
Methods: This was an observational cohort study of 2,322 VA patients with AMI or Unstable Angina from 24 VA hospitals (10 tertiary, 14 primary centers). Univariate analyses were used to compare the baseline characteristics and outcomes of patients admitted to primary versus tertiary care hospitals. Outcomes included in-hospital and 7-month mortality, and 7-month revascularization rates (PCI or CABG surgery).
Results: There were 1470 patients admitted to tertiary centers and 852 patients admitted to primary centers, and they had similar baseline characteristics. However, patients admitted to primary centers had significantly higher in-hospital and 7-month mortality, and lower 7-month revascularization rates (Table).
Conclusion: Patients admitted to primary care VA hospitals appear to be at increased risk for mortality following ACS. This may be due to under-use of revascularization, since these patients were 31% less likely to be revascularized within 7 months following ACS admission than patients admitted to tertiary hospitals. These results may have important implications for how ACS care and revascularization are delivered in the VA.

	Primary Care	Tertiary Care	P-value
In-Hospital Mortality	5.2%	3.3%	0.03
7-Month Mortality	12.9%	10.2%	0.05
7-Month Revascularization Rate	21.6%	31.4%	<0.001

1193-54 Despite Increased Mortality Post Myocardial Infarction, Diabetics Have Made Substantial Gains From Therapy

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Background: Mortality from myocardial infarction(MI) has declined due to improvements in medical therapy. We investigated the gains made by diabetic subjects as compared to non-diabetic subjects in mortality post MI.
Methods: All veterans hospitalized for acute MI at any veterans affairs medical center between 10/90 and 10/97 were identified. Demographic, clinical, follow-up and mortality data were extracted from the national data base. Mortality at 60 days and 1 year post MI was compared between diabetics and non-diabetics for each year from 1991 to 1998
Results: A total of 67,889 patients with acute MI were identified (diabetics=17,756). At 60 days, death rate in non-diabetics fell from 14.68% in 1991 to 11.59% in 1998(21% reduction). In the diabetic group it fell from 16.23% to 12.55%(22.6% reduction)(See table). Relative reduction for 1 year mortality in the same time period was 28% for both groups
Conclusions: Although diabetics continue to have higher mortality post MI compared to non-diabetics, there has been significant reduction in mortality in diabetics in the last decade. The relative reduction in mortality is similar in both groups.

Percent dead at 60 days by year

Year	non-diabetic	diabetic	total mortality
1991	14.68	16.23	15.04
1992	13.36	13.60	13.42
1993	13.14	15.22	13.63
1994	12.74	14.69	13.25
1995	12.26	16.27	13.35
1996	12.39	14.18	12.87
1997	12.73	14.17	13.14
1998	11.59	12.55	11.89

1193-55 Do Hospital Outcomes Differ Among Patients With Acute Coronary Syndromes Admitted Directly Versus Those Transferred to a Tertiary Hospital?

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Background: Patients with acute coronary syndromes (ACS) at tertiary hospitals (TH) are either admitted directly or transferred from other hospitals for further management. However, it is uncertain how these two groups differ in clinical features, treatment and outcomes.
Methods: We reviewed 1146 ACS patients admitted to University of Michigan hospital.
Results: When compared to direct admits, transferred patients were younger, had lower body mass index, less angina and lower incidence of prior bypass surgery or renal failure. However, transferred patients had greater ST segment deviations, troponin elevation, cardiac arrest and Killip class at presentation. Transferred patients were also more likely to undergo procedures (cardiac catheterization 73% vs. 59%; percutaneous coronary intervention 47% vs. 34%; pulmonary artery catheterization 14% vs. 8%; intra aortic balloon pump 9% vs. 6% & ventilator support 17% vs. 8%, p <0.05 for all). In-hospital events are as shown in Table.
Conclusions: Patients with ACS transferred to TH have an increased risk profile and as a result have higher in-hospital events including mortality compared to those admitted directly. Therefore, risk-adjusted, rather than raw percentages, are important for comparing outcomes of one hospital to another, where the frequency of receiving transferred patients can vary widely.

In-hospital Events	Re-Infarction	Death	Cardiogenic Shock	Sustained Ventricular Tachycardia	Ventricular Fibrillation
% Transferred	3	7	12	6	5
% Directly Admitted	0.5	3	5	3	2
p Value	0.001	0.003	0.001	0.03	0.006

1193-56 Management and In-Hospital Outcome for Patients With Acute Myocardial Infarction in Contemporary Practice: Japan Acute Myocardial Infarction (JAMI) Study--Prospective Multicenter Observational Cohort Study in Japan

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BACKGROUND: Several studies clarified that race and treatment approaches are important factors for clinical outcomes of acute myocardial infarction (AMI). However, there is no large trial that examine the specificity of AMI in Japan. Japan Acute Myocardial Infarction (JAMI) Study is a large, prospective, multicenter observational study of patients hospitalized with AMI in Japan. The aim of this trial is to elucidate patient characteristics, treatment practices and in-hospital and post discharge outcomes for patients with AMI in Japan. METHODS: A total of 19 hospitals in Japan are collaborating in JAMI. Information on patient demographics, clinical characteristics, treatment approaches and in-hospital outcomes is collected using a standardized core case report form. RESULTS: A total of 3029 patients were enrolled from 1999 through 2001. The median age was 69 ± 12 years with male preponderance (71%), and 852 (28%) patients of them were aged > 75 years. Emergency coronary angiography (within 24 hours after MI onset) was performed in 72% of patients and 81% of them were received percutaneous coronary intervention (PCI). The PCI was considered successful in 92%, stents were placed in 67%. In-hospital mortality was 9.7% in overall, whereas 5.6% in successful PCI patients. Main cause of in-hospital death was cardiogenic shock (3.3%). Mean hospital stay was 26 ± 18 days. Post discharge outcomes will be presented. CONCLUSION: The information collected from the JAMI study provided important and extensive insights into patient demographics, clinical characteristics, current treatment approaches and in-hospital outcomes for patients with AMI in Japan. The data from JAMI will be a major reference that will establish new evidence-based medicine for AMI in Japan.

1193-57 Increased Body Mass Index Is Associated With Better Short- but Not Long-Term Outcome Following Acute Myocardial Infarction Despite an Increased Risk of Recurrent Events

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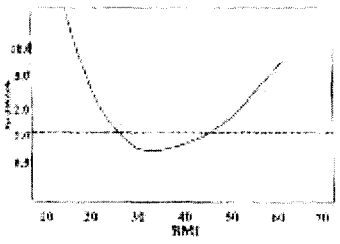
Background: Primary prevention studies suggest that a curvilinear relationship exists between body-mass index (BMI) and long-term survival. Several reports indicate an inverse relationship between obesity and short-term outcome in coronary patients. The relationship between BMI and long-term outcome following acute myocardial infarction (AMI) is less well known.
Methods: We examined BMI and outcome in 941 AMI patients admitted from January 1, 1988 to April 16, 2001. BMI was stratified as: normal < 25, overweight 25-29.9 and obesity >= 30 kg/m2.
Results: Abnormal-BMI patients were younger and had higher rates of diabetes and a CAD family history. Six-month survival was better in those with an abnormal-BMI: Adjusted OR 0.46 (95% CI 0.25-0.85; *P*=0.01) while survival >6 months was not: Adjusted OR 0.82 (0.59-1.15; P=0.25). BMI >35 was associated with poor short-term outcome (Figure). The risk of repeat AMI was higher in patients with an increased BMI: Adjusted OR 2.18 (1.15-4.12; P=0.02), and was related to BMI linearly.
Conclusions: For AMI survivors, the U-shaped relationship between BMI and mortality is shifted rightward suggesting that younger age may explain the obesity paradox. How-

ever, patients with BMI >25 are at increased risk of recurrent AMI. This finding suggests the need to aggressively intervene in obese and overweight patients following the index AMI to reduce the long-term risk of recurrent events.



1193-58 **What Is the Meaning of High-Risk? A Prospective Comparison of Three Risk Stratification Models Recommended in Non-ST Elevation Myocardial Infarction and Unstable Angina**

Ali F. Sonel, Chester B. Good, Mary E. Kelley, Lauren Wall, Jeffrey Whittle, Michael J. Fine, VA Pittsburgh Healthcare System, Center for Health Equity Research and Promotion, Pittsburgh, PA, University of Pittsburgh, Pittsburgh, PA

Background: Non-ST elevation MI (NSTEMI) and unstable angina (UA) patients (pts) represent a heterogeneous population. ACC/AHA guidelines for NSTEMI and UA recommend 3 different risk stratification models (AHCPR, PURSUIT, TIMI).
Methods: The relative accuracy of each risk model cited by the guidelines was prospectively studied in 566 pts admitted with suspicion of MI. Information was obtained from chart review and clinical follow up. The end-point was 30-day death or new MI.
Results: Mean age was 67 +/- 12 years. The AHCPR Model, PURSUIT Model and the TIMI Model identified 85%, 42% and 9% of pts as "high-risk" respectively. Using only cardiac marker and ECG criteria, 63% of pts were identified as high-risk. At 30 days 58 of 566 patients (10%) had a cardiac event. Among all three model variables, hemodynamic instability (p<0.001), pulmonary edema (p<0.001), cardiac markers (p<0.001), age (p=0.035), ST changes (p=0.05), Canadian Cardiovascular Class III-IV (p=0.036), not being on aspirin prior to admission(p=0.015) were predictive of events.

	% Event High-Risk	% Event Not High-Risk	Sensitivity	Specificity	*p* value
AHCPR Model	11%	4%	95%	10%	0.031
PURSUIT Model	14%	8%	57%	60%	0.016
TIMI Model	10%	10%	9%	91%	NS
ECG and Markers	14%	4%	85%	39%	<0.001

Conclusions: Although both the AHCPR Model and the PURSUIT Model were predictive of events, the former was non-specific. A model based only on the ECG and marker criteria predicted events with good sensitivity and moderate specificity. The TIMI Risk score was not predictive of events. Future models for risk stratification should rely more on objective markers and ECG criteria and should be derived and validated prospectively in a non-selected population of pts.

ORAL CONTRIBUTIONS

851 Societal Issues in Outcomes Research

Tuesday, April 01, 2003, 2:00 p.m.-3:30 p.m.
McCormick Place, Room S105

2:00 p.m.

851-1 **Effect of Ethnicity on Distrust Toward Medical Researchers and Willingness to Join a Cardiovascular Drug Prevention Trial**

Joel B. Braunstein, Steven P. Schulman, Neil R. Powe, The Johns Hopkins Medical Institutions, Baltimore, MD

Background: Minority underrepresentation exists in medical research including cardiovascular disease (CVD) clinical trials. We asked whether African-Americans (AA) differ from Caucasians (C) in their distrust toward medical researchers and whether this influences their willingness to participate (WTP) in a clinical trial.
Methods: We approached 717 randomly selected patients from 13 Maryland-based outpatient cardiology and general medicine clinics between May and August 2002 to complete a self-administered survey regarding their WTP in a CVD drug prevention trial. Patients read a trial description that contained information similar to that in a consent form and reported their WTP using a 5-point scale. Medical researcher distrust was assessed using a previously published 7-point index. We determined the relation between ethnicity and distrust, and how these factors influenced WTP, while adjusting for sociodemographics.
Results: 595 patients (83% response) completed the survey: mean (SD) age = 53.6 (15.6) yrs, 54% female, and 37% AA. AA had higher mean distrust scores than C patients (2.6±1.7 vs. 1.5±1.5, p<0.0001). AA more often reported that doctors would less fully explain research to them (25% vs. 13%, p<0.001), use them as guinea pigs without consent (73% vs. 50%, p<0.001), prescribe medication as a way of experimenting on people without their knowledge (59% vs. 26%, p<0.001), and ask them to join research even if it could harm them (26% vs. 16%, p=0.003). AA also more often believed they could less freely ask their doctor questions (8% vs. 2%, p=0.001) and were previously experimented on without their consent (55% vs. 45%, p<0.001). Fewer AA than C were WTP (29% vs. 38%, respectively, p=0.03); however, this difference was no longer significant after controlling for distrust and sociodemographics (OR=0.82, 95% CI 0.55-1.22). Every one-point increase in distrust score predicted a 27% lower odds of WTP, OR=0.73 (0.65-0.83, p<0.001).
Conclusion: AA express much greater distrust toward medical researchers, and distrust is an important negative predictor of WTP in clinical trials. Greater distrust toward medical researchers may partially explain AA underrepresentation in clinical trials.

2:15 p.m.

851-2 **Ramifications of Cost-Sharing for 21,732 Patients With Congestive Heart Failure: Early Results From the Safety and Financial Ramifications of Emergency Department Copayments (SAFE) Study**

John Hsu, Mary Price, Richard Brand, Bruce Fireman, Joseph P. Newhouse, Joseph V. Selby, Kaiser Foundation Research Institute, Oakland, CA, Harvard University, Cambridge, MA

Background Millions of Americans are facing increasing levels of cost-sharing, which are designed to promote more efficient resource use, but have unclear clinical consequences. We investigated the impact of cost-sharing for emergency care on Emergency Department (ED) visits and hospitalizations in a cohort of patients with congestive heart failure (CHF). **Methods** As part of an AHRQ-sponsored quasi-experimental study, we examined the effect of ED copayment levels on ED visits and hospitalizations during 1999– 2001 in adult congestive heart failure (CHF) patients. All subjects were members of Kaiser Permanente–Northern California, an integrated, managed care delivery system. We classified ED copayments of $20 or greater as High, and compared the estimated relative rates of monthly ED use and hospitalizations by copayment level using a gamma random effects model, adjusting for age, gender, medical center, a case-mix propensity score, baseline cardiovascular medication use, and time. We used the 118 hierarchical condition categories (DxCG based HCC's) to calculate the propensity score. **Results** The 21,732 subjects tended to be male (55%) and 65 years or older (74%; mean age 71 years, SD=12). In 1999, 14% of subjects had High ED copayments; this percentage increased to 60% in 2000 and 70% in 2001. The number of patients with Medicare remained around 67% during the study period; the remainder had commercial prepaid insurance. The mean ED visit and hospitalization rates were 132.2 and 57.8 visits per 100 person-months respectively. In the multivariate models, subjects with a High ED copayment had a relative ED visit rate of 0.97 (95% CI: 0.95 – 0.99), and hospitalization rate of 1.0 (95% CI: 0.97 – 1.05). **Conclusion** In chronic disease patients, copayments for ED visits were associated with a small decrease in ED use, but were not associated with significant changes in hospitalizations. These preliminary data suggest that cost-sharing for emergency care could reduce resource consumption and costs without harming patients' health. Additional analyses will investigate changes in other clinical outcomes including mortality and in total costs.

2:30 p.m.

851-3 **Influence of Physician Specialty on Care and Outcomes of Acute Coronary Syndrome Patients: Results From CRUSADE**

Eric D. Peterson, Matthew T. Roe, Yun Li, Robert A. Harrington, Ralph G. Brindis, Sidney Smith, W. Brian Gibler, E. Magnus Ohman, Duke Clinical Research Institute, Durham, NC

Background: We investigated the degree to which care of patients with NSTE acute coronary syndrome (ACS) varies by the speciality of the primary treating physician. We also associated these care differences with acute patient outcomes. **Methods:** Using the CRUSADE National Registry, we examined 18,985 high risk ACS pts with + cardiac markers and/or ST depression treated at 289 US hospitals in 2001-02. We compared 12 class I ACC/AHA guideline care processes, as well as, in-hospital outcomes by the MD primarily responsible for in-hospital care (cardiology vs non-cardiology). Care and outcome results were also adjusted for patient casemix and for hospital features (academic status, hospital facilities, bed size and % pts treated by cardiology). **Results:** Overall, 43% of ACS patients were primarily cared for by non-cardiologists. Table 1 provides selected care processes and outcomes by speciality and the adjusted odds ratio for receiving that treatment or outcome for cardiologists' care vs not. **Conclusions:** Patients with NSTE ACS were significantly more likely to receive ACC/AHA guidelines indicated treatments if they were cared for by a cardiologist. Patients' acute mortality risks was also significantly lower with cardiologist care even after adjusting for presenting clinical factors and hospital features. This study demonstrates the need to more widely disseminate national cardiac care guidelines for NSTE ACS to all physicians.